



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,502	02/25/2004	Guy Wallace Miller	EH-10797	9894
7590		07/17/2007		
William W. Jones				
6 Juniper Lane				
Madison, CT 06443				
			EXAMINER	
			KIM, TAE JUN	
			ART UNIT	PAPER NUMBER
			3746	
			MAIL DATE	DELIVERY MODE
			07/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/785,502

Applicant(s)

MILLER, GUY WALLACE

Examiner

Ted Kim

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15, 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 15, 16 are dependent on claim 6 and on claim 1. However, in claim 15 "first gear arrangement" is the same gear arrangement as the 3rd gear arrangement of claim 1. In claim 16 "a second gear arrangement" claims the same gear arrangement as the 4th gear arrangement of claim 1. Hence, applicant is required to maintain consistency for the nomenclature to clearly point out the claimed invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 9-13, 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Brockmann (4,776,163). Brockmann teaches a gas turbine engine and a mechanical drive system for an accessory gearbox of a gas turbine engine, which engine has a high-pressure drive shaft 3 and a low-pressure drive shaft 2, 6 which engine has a high-

pressure drive shaft 3 connected to *a high-pressure compressor and a high-pressure turbine* [these are not illustrated but are inherently present, for its designation as a high pressure rotor, see US patent 4,525,995 for extrinsic evidence]; a low-pressure drive shaft 2, 6 connected to *a low-pressure compressor and a low-pressure turbine* [these are not illustrated but are inherently present, for its designation as a high pressure rotor, see US patent 4,525,995 for extrinsic evidence]; the drive system comprising: a first tower shaft 12 connected by a first gear arrangement to the high-pressure drive shaft 3; a second tower shaft 13 connected by a second gear arrangement to the low-pressure drive shaft 2, 6; a first lay shaft 18 connected by a third gear arrangement to the first tower shaft 12, and connected to the accessory gearbox; and a second lay shaft 17 connected by a fourth gear arrangement to the second tower shaft 13, and connected to the accessory gearbox; wherein the first tower shaft 12 is concentric with the second tower shaft 13; wherein the first lay shaft 18 is concentric with the second lay shaft 17; wherein the third gear arrangement includes a first bevel gear 11' attached to the first tower shaft 12, and a second bevel gear 9' attached to the first lay shaft 18, wherein the first bevel gear and the second bevel gear are engaged with one another; wherein the fourth gear arrangement includes a third bevel gear 10' attached to the second tower shaft 13, and a fourth bevel gear 8' attached to the second lay shaft 17, wherein the third bevel gear and the fourth bevel gear are engaged with one another. A mechanical drive system for an accessory gearbox of a gas turbine engine, which engine has a high-pressure drive shaft 3 and a low-pressure drive shaft 2, 6, the drive system comprising: a first tower shaft 12 driven

by the high-pressure drive shaft; a second tower shaft 13 driven by the low-pressure drive shaft; a first lay shaft 18 driven by the first tower shaft 12, and connected to the accessory gearbox; and a second lay shaft 17 driven by the second tower shaft 13, and connected to the accessory gearbox; wherein the first tower shaft 12 is concentric with the second tower shaft 13; wherein the first lay shaft 18 is concentric with the second lay shaft 17; wherein a first gear arrangement connects the first tower shaft 12 to the first lay shaft 18, and the first gear arrangement includes a first bevel gear 11' attached to the first tower shaft 12, and a second bevel gear 9' attached to the first lay shaft 18, wherein the first bevel gear and the second bevel gear are engaged with one another; wherein a second gear arrangement includes a third bevel gear 10' attached to the second tower shaft 13, and a fourth bevel gear 8' attached to the second lay shaft 17, wherein the third bevel gear and the fourth bevel gear are engaged with one another.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 9-13, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brockmann (4,776,163) in view of Clark (4,525,995). Brockmann teaches a high pressure rotor and low pressure rotor and the respective high and low pressure

compressor and turbines were regarded as inherently present. Alternatively, in order to obviate any doubt, Clark teaches the gas turbine engine has a high-pressure 14 drive shaft 30 connected to a high-pressure compressor 34 and a high-pressure turbine 36; a low-pressure 12 drive shaft 20 connected to a low-pressure compressor 26 and a low-pressure turbine 28 (col. 2, lines 19-32). It would have been obvious to one of ordinary skill in the art to employ the compressors and turbines respectively on the high and low pressure rotor/shafts, as taught by Clark, as the conventional practice in the art.

7. Claims 6, 7, 14, 15, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of the Brockmann (4,776,163) rejections above, and further in view of Hield et al (5,694,765). Brockmann teaches various aspects of the claimed invention but do not teach the first lay shaft is disposed spaced apart from and parallel to the second lay shaft, rather these shafts are concentric. Hield et al teach a shaft arrangement 40, 188, (Fig. 5) which are spaced apart from and parallel rather than concentric. It would have been obvious to one of ordinary skill in the art to employ a parallel and spaced apart arrangement for the lay shafts as an equivalent configuration to concentric.

Allowable Subject Matter

8. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information


Art Unit: 3746

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax number for the organization where this application is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at 571-272-4828. Alternate inquiries to Technology Center 3700 can be made via 571-272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>

 /Ted Kim/ Primary Examiner July 3, 2007	Telephone 571-272-4829 Fax (Regular) 571-273-8300 Fax (After Final) 571-273-8300
Technology Center 3700	Telephone 571-272-3700
